48-51 were withdrawn from examination by the Examiner. Next, the Examiner rejected elected claims 1-23 and 47 as non-enabling and over the art of record. By the present amendment and remarks, Applicant submits that the rejections have been overcome, and respectfully requests reconsideration of the outstanding Office Action and allowance of the present application.

Support for Amendment to the Specification

Applicant notes that paragraph [0021] was amended to correct a translation error. Applicant notes that this is an obvious error since the melting temperature is always given as the melting temperature of the thermoplastic or thermoplastic mixture, whereas a thermosetting plastic does not have a melting temperature, but has instead, a glass transition temperature.

Restriction Requirement

Claims 1-23 and 47 were elected with traverse. Moreover, claims 24-46 and 48-51 were withdrawn by the Examiner as directed to the non-elected invention. Moreover, the Examiner has made the restriction requirement final.

Applicant respectfully disagrees with the restriction requirement and the Examiner's assertion that there is no disclosure with regard to inserting the core into the cover.

Applicant notes that paragraph [0024] clearly indicates that "the covering layer can be applied to the roll core in any number of ways, e.g., being pushed onto it." Moreover, independent claim 1 recites that the covering layer "is disposed on" the roll core while independent claim 24 recites that the covering layer "is applied on" the roll core. Neither claim precludes inserting the roll core into the covering layer because regardless of how one attaches the covering layer and roll core, the covering ends up being disposed thereon and because the term "applying" is clearly broad enough to include "inserting the role core into the sleeve", especially when the specification indicates that "the covering layer can be applied to the roll core in any number of ways, e.g., being pushed onto it."

At this time Applicant is not canceling the non-elected claims pending allowance of the elected claims.

Crossed-out documents on form PTO-1449

Applicant is concurrently filing another form PTO-1449 listing the documents cited in Applicant's previously filed information disclosure statement.

Applicant respectfully requests that the Examiner reconsider the decision to cross-out the ten German documents, apparently on the basis that these non-English language documents were not cited in compliance with 37 CFR 1.98(a)(3)).

Applicant notes that in the previously filed information disclosure statement,

Applicant cited these non-English documents by indicating that these documents had been cited in a foreign Office Search Report, i.e., a German Search Report, in a counterpart application, i.e., in Applicant's priority application. A copy of the Search Report was included with Applicant's information disclosure statement and, further, Applicant explained therein that the Search Report identified each of these documents as being relevant with regard to the invention recited in certain claims of the aforementioned priority application.

The aforementioned explanation, i.e., the explanation of the relevance to certain claims of the counterpart application and the explanation that each was characterized as being relevant to the general background of the invention is believed to be sufficient for compliance with 37 CFR 1.98(a)(3). In this regard, MPEP 609 A(3) indicates that

> the requirement for a concise explanation of relevance can be satisfied by submitting an English-language version of the search report or action which indicates the degree of relevance found by the foreign office. (Emphasis added)

Therefore, since Applicant has explained (in the previously filed IDS), in English, the degree of relevance found by the foreign office, Applicant submits that they have fully complied with 37 CFR 1.98(a)(3) regarding the non-English language documents.

Consequently, a PTO-1449 is attached hereto on which all three documents (one English language foreign document and two non-English language documents) are listed. The Examiner is respectfully requested to consider all the documents cited above and to

confirm such consideration by appropriately initialing the listings on the PTO- 1449 form and returning a copy of the initialed form to Applicant.

§ 112 First Paragraph Non-enablement Rejection is moot and/or improper

Claims 1-23 and 47 were rejected under 35 U.S.C. § 112, first paragraph, as being non-enabling with regard to the types of thermoplastics and thermosetting plastics that can be used. Applicant respectfully traverses this rejection.

Applicant notes that it is common knowledge in the relevant field of making such covering layers that all plastics fall into one of two main categories, i.e., thermoplastics (plastics which can be repeatedly melted and molded) and thermosetting plastics (plastics which cannot be remolded, remelted and reshaped, and which are commonly used in roll covers).

It is also clear that one of ordinary skill in the art is well aware of both thermoplastics and thermosetting plastics, and that such a person is well aware of the available types of plastics in each category. It is also evident that such a skilled person also knows the particular properties of such plastic types. For the convenience of the Examiner, Applicant has attached a chart of commonly available plastics, indicating their properties and uses.

Applicant further notes that in paragraphs [0008] and [0009] of page 3 of the instant specification, it was explained that in the prior art, "[t]hermosetting plastics are nowadays

usually used as the base material for the covering layer of elastic rolls. Thermosetting plastics have the advantage that they have a high elasticity up to their respective glass transition temperature Tg and are therefore well suited for the formation of the elastic covering layer. However, thermosetting plastics have the property that they can only be exposed to temperatures below the Tg value after a one-time heating into the range of the Tg temperature value and a subsequent hardening, since they are destroyed at temperatures above the Tg value after hardening.

Elastic rolls having a covering layer based on pure thermosetting plastics thus have the disadvantage that the covering layer is destroyed if its temperature is raised above the Tg value. Markings in the surface of the covering layer can only be removed from such rolls by, e.g., abrading the whole covering layer surface. The abrading of elastic rolls is, however, a very time-consuming mechanical process which requires special machines. Such processes therefore result in relatively long down times of a corresponding paper smoothing apparatus."

Applicant has thus acknowledged that the use of thermosetting plastics in covering layers is conventional. Accordingly, it follows that the particular types of thermosetting plastics used therein are also known. Examples of these include, e.g., epoxy, polyester, isocyanates.

With regard to thermoplastics, Applicant has explained that one having ordinary skill in the art is clearly aware of many common thermoplastics which can be used. In fact, the

attached chart indicates a number of thermoplastics within the knowledge of one having ordinary skill, such as, e.g., PVC, Polystyrene, ABS, and Nylon. Other thermoplastics which can be used and which one having ordinary skill in the art would clearly know about are, e.g., polyethylene, polybutane, polyamide, polycarbonate and polymethypentene.

As is indicated in MPEP 2164.01, "[t]he test of enablement is whether one skilled in the art could make and use the claimed invention from the disclosure coupled with information known in the art without undue experimentation. United Stated v. Telectronics, Inc., 857 F.2d 778, 8 USPQ2d 1217 (Fed. Cir. 1988); In re Stephens, 188 USPQ 659 (CCPA 1976). The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue. In re Angstadt, 190 USPQ 214 (CCPA 1976). An extended period of experimentation may not be undue if the skilled artisan is given sufficient direction or guidance. In re Colianni, 195 USPQ 150 (CCPA 1977) (Miller, J., concurring). The experimentation required, in addition to not being undue, must not require ingenuity beyond that expected of one of ordinary skill in the art. In re Angstadt, supra. For example, in one instance a "few hours" of experimentation to determine process parameters was not considered to be undue in view of the nature of the invention (preparation of oxygenated hydrocarbons). In re Borkowski, 164 USPQ 642 (CCPA 1970). In Tabuchi v. Nubel, 194 USPQ 521 (CCPA 1977) a screening procedure which took 15 calendar days was not considered undue experimentation because the test was both simple and straightforward and

because of its demonstrated success in producing the desired result.

Applicant submits that each of the above noted commonly know materials would suffice to practice the invention, especially in light of the guidance provided by Applicant's disclosure, which must be considered in evaluating enablement. In particular, Applicant has indicated in paragraphs [0012]-[0014] that "[i]n accordance with the invention, the advantages of the known thermosetting plastics, in particular their high elasticity, are thus combined with the advantage of thermoplastics, namely a repeatable melting capability. Thus, markings in a covering layer which are typically formed in the calendering process can be removed without resort to mechanical abrading. Accordingly, the markings can be removed by using a simple heating process, i.e., heating the matrix material above the melting temperature of the thermoplastic. An adequate surface quality of the repaired covering layer can also be achieved without additional rework, e.g., in particular when the roll is set into rotation during the heating process. In order to repair deeper markings, the surface of the cover may be subjected to a smoothing treatment which can be carried out, e.g., simultaneously during or after the heating." Applicant also indicated that "the proportion of thermosetting plastic is made higher than the proportion of thermoplastic and is advantageously between approximately 50% and 80%, and may be in particular between approximately 60% and 75%, and preferably amounts to approximately 70%. In order to ensure that the elasticity of the covering layer is sufficiently high, the mixing ratio may be

influenced, e.g., taking advantage of the fact that the thermosetting plastics usually have a higher elasticity than thermoplastics." and that "the mixture contains different thermosetting plastics and/or different thermoplastics. In this way, the desired physical properties of the covering layer can be set and/or influenced, e.g., by using different basic materials. For example, the overall heat transmission temperature of the thermosetting plastics can be set and/or controlled by mixing different thermosetting plastics, while the overall melting temperature of the thermoplastics can be set and/or controlled by mixing different thermoplastics."

Such information coupled with the skill and knowledge that one of ordinary skill in the art would have regarding the use of plastics in forming covering layers is more that sufficient to enable the claimed invention and certainly would not require undue experimentation.

Applicant reminds the Examiner of the guidance provided in MPEP 2164.04 which states that "a specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as in compliance with the enabling requirement of the first paragraph of 35 USC112 unless there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support."

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of the above-noted claims under 35 U.S.C. § 112, first paragraph.

Traversal of Rejection Under 35 U.S.C. § 102(b)

Applicant traverses the rejection of claims 1-8, 12, 13, 16-18, 20 and 21 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 2,534,818 to HOLROYD et al.

The Examiner asserted that this document discloses all the features recited in these claims including the thermoplastic and thermosetting plastic. Applicant respectfully traverses this rejection.

Applicant submits that HOLROYD fails to disclose the invention as defined by at least independent claim 1 as amended. Notwithstanding the Office Action assertions as to what HOLROYD discloses, Applicant submits that HOLROYD fails to disclose, inter alia, a roll having a covering layer comprising at least one thermosetting plastic and at least one thermoplastic, *wherein the at least one thermoplastic has a melting temperature which is below a glass transition temperature of the at least one thermosetting plastic*, as recited in amended claim 1.

It is apparent from col. 2, lines 9-54 of HOLROYD that this document relates to a roll whose fabric may be immersed in a water bath containing a thermoplastic and a thermosetting plastic. However, it is clear that the disclosed roll is one for laundry ironing

and not for smoothing a web as is recited in Applicant's claims. It is also apparent that, unlike the present invention, there is no disclosure with regard to the at least one thermoplastic having a melting temperature which is below a glass transition temperature of the at least one thermosetting plastic. Thus, Applicant submits that claims 1-8, 12, 13, 16-18, 20 and 21 are not disclosed by any proper reading of HOLROYD.

Applicant further notes that, for an anticipation rejection under 35 U.S.C. § 102(b) to be proper, each element of the claim in question must be disclosed in a single document, and if the document relied upon does not do so, then the rejection must be withdrawn.

Because HOLROYD fails to disclose at least the above mentioned features as recited in independent claim 1, Applicant submits that HOLROYD does not disclose all the claimed features recited in at least independent claim 1.

Furthermore, Applicant submits that dependent claims 2-8, 12, 13, 16-18, 20 and 21 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper reading of HOLROYD discloses or suggests, in combination: that the web is a paper web as recited in claim 2; that the roll core comprises a hard metal roll core as recited in claim 3; that the covering layer comprises a matrix material and wherein one of fillers and fibers are embedded in the matrix material as recited in claim 4; that the amount thermosetting plastic is, one of greater than and proportionally

greater than, the amount of thermoplastic as recited in claim 5; that the proportion of thermosetting plastic is one of between approximately 50% and 80% as recited in claim 6; that the proportion is between approximately 60% and 75% as recited in claim 7; that the proportion is approximately 70% as recited in claim 8; that the covering layer comprises a mixture of the at least one thermosetting plastic and the at least one thermoplastic and wherein an amount of the thermosetting plastic relative to the amount of thermoplastic in the covering layer comprises a mixture ratio which is essentially constant over an axial length of the covering layer as recited in claim 12; that the covering layer comprises a mixture of the at least one thermosetting plastic and the at least one thermoplastic and wherein an amount of the thermosetting plastic relative to the amount of thermoplastic in the mixture comprises a mixture ratio which is essentially constant over a radial thickness of the covering layer as recited in claim 13; that the covering layer includes one of fillers and fibers as recited in claim 16; that the covering layer comprises a matrix material and wherein the fillers or fibers are disposed in the matrix material of the covering layer as recited in claim 17; that the covering layer includes fibers arranged in the form of one or more fiber layers as recited in claim 18; that the covering layer includes fibers and fillers as recited in claim 20; and that the fibers and fillers are encapsulated by the covering layer made of matrix material as recited in claim 21.

Applicant requests that the Examiner reconsider and withdraw the rejection of the

above-noted claims under 35 U.S.C. § 102(b).

Traversal of Rejection Under 35 U.S.C. § 102(b)/103(a)

Applicant respectfully traverses the rejection of claims 23 and 47 under 35 U.S.C. § 102(b) as anticipated by HOLROYD or in the alternative as obvious over HOLROYD in view of US patent 5,514,466 to YAMADA et al.

The Examiner asserted that HOLROYD fairly discloses all of the claimed features recited in these claims except for the thermoplastic having a melting temperature which is below a glass transition temperature of the at least one thermosetting plastic. Moreover, the Examiner opined that such a feature is inherent in HOLROYD and that YAMADA teaches "using a thermosetting resins having high glass transition temperatures .." Applicant respectfully traverses this rejection.

Applicant also submits that the rejection is improper because no proper combination of these documents discloses or suggests all the recited features of the above-noted claims 1 and 47.

Notwithstanding the Office Action assertions as to what these documents disclose or suggest, Applicant submits that no proper reading of or combination of these documents discloses or suggests, inter alia, a roll having a covering layer comprising at least one thermosetting plastic and at least one thermoplastic, *wherein the at least one thermoplastic*

has a melting temperature which is below a glass transition temperature of the at least one thermosetting plastic, as recited in claims 1 and 47.

As discussed above, HOLROYD relates to a roll whose fabric may be immersed in a water bath containing a thermoplastic and a thermosetting plastic. However, it is clear that the disclosed roll is one for laundry ironing and not for smoothing a web as is recited in Applicant's claims. It is also apparent that, unlike the present invention, there is no disclosure with regard to the at least one thermoplastic having a melting temperature which is below a glass transition temperature of the at least one thermosetting plastic.

Moreover, YAMADA relates to plastic optical articles and has entirely nothing to do with roll covers, much less, roll covers for smoothing a web.

Applicant also traverses the Examiner's assertion of inherency. Applicant notes that inherency may not be established by probabilities or possibilities regarding what may have resulted in the prior art. *In re Oelrich*, 666 F.2d 578, 212 USPQ 323, 326 (CCPA 1981). In that case, the court quoted from *Hansgirg v. Kemmer*, 102 F.2d 212, 214, 40 USPQ 665, 667 (CCPA 1939): "The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient." *See also Ex parte Skinner,* 2 USPQ2d 1788 (B PAI 1986). Further, in *Hughes Aircraft Co. v. U.S.,* 8 USPQ2d 1580, 1583 (Cl. Ct. 1988), the court held that, to be found inherent in an anticipating reference, an unstated element must exist as a matter of scientific fact and flow naturally from the elements expressly disclosed in the prior

art reference.

The Examiner concludes that a feature is inherent from the mere fact that the document discloses a thermoplastic and a thermosetting plastic. Accordingly, it is apparent that the Examiner has not based the inherency finding consistent with *Hughes Aircraft Co. v. U.S.,* 8 USPQ2d 1580, (Cl. Ct. 1988).

Moreover, to the extent that the Examiner relies on inherency in sustaining the obviousness rejection, Applicant notes that inherency does not apply to obviousness. Consideration of an inherent quality is relevant only to anticipation, not obviousness. *Jones v. Hardy,* 230 USPQ 1021, 1025 (Fed. Cir. 1984).

Thus, Applicant submits that the above-noted document fails to disclose or suggest the features recited in at least independent claims 1 and 47. Because no proper combination of HOLROYD and YAMADA discloses or suggests at least the above-noted features of the instant invention, Applicant submits that HOLROYD and YAMADA fail to render unpatentable the combination of features recited in at least independent claims 1 and 47.

Furthermore, Applicant submits that there is no motivation or rationale disclosed or suggested in the art to modify HOLROYD with YAMADA in the manner asserted by the Examiner. Nor does the Examiner's opinion provide a proper basis for these features or for the motivation to modify this document, in the manner suggested by the Examiner. Therefore, Applicant submits that the invention as recited in at least independent claims 1

and 47 is not rendered obvious by any reasonable inspection of these disclosures.

Applicant directs the Examiner's attention to the guidelines identified in M.P.E.P section 2141 which state that "[i]n determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

As this section clearly indicates, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

Moreover, it has been legally established that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) .... Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d

1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).

Additionally, it has been held that "[a] statement that modifications of the prior art to meet the claimed invention would have been "` well within the ordinary skill of the art at the time the claimed invention was made'" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993)."

Further, Applicant submits that the rejection of claim 23 is moot in as much as claim 23 has been canceled.

Traversal of Rejection Under 35 U.S.C. § 103(a)

Applicant traverses the rejection of claims 9-11, 14, 15, 19 and 22 under 35 U.S.C. § 103(a) as being unpatentable over HOLROYD alone.

The Examiner asserted that HOLROYD teaches all the recited features of these claims except for a number of features including using two different thermoplastics and thermosetting plastics. Moreover, the Examiner asserted that these features merely represent obvious design choice considerations and that it would have been obvious to one having

ordinary skill in the art to provide these features in HOLROYD. Reconsideration of the above-noted rejections is requested.

As discussed above, HOLROYD does not disclose or suggest the invention as defined by at least independent claim 1 as amended. Moreover, as claims 9-11, 14, 15, 19 and 22 depend from claim 1, they are allowable at least for this reason.

Again, Applicant submits that HOLROYD fails to disclose the invention as defined by at least independent claim 1 as amended. Notwithstanding the Office Action assertions as to what HOLROYD discloses, Applicant submits that HOLROYD fails to disclose, inter alia, a roll having a covering layer comprising at least one thermosetting plastic and at least one thermoplastic, *wherein the at least one thermoplastic has a melting temperature which is below a glass transition temperature of the at least one thermosetting plastic*, as recited in amended claim 1.

Applicant again notes that HOLROYD relates to a roll whose fabric may be immersed in a water bath containing a thermoplastic and a thermosetting plastic. However, it is clear that the disclosed roll is one for laundry ironing and not for smoothing a web as is recited in Applicant's claims. It is also apparent that, unlike the present invention, there is no disclosure with regard to the at least one thermoplastic having a melting temperature which is below a glass transition temperature of the at least one thermosetting plastic. Thus, Applicant submits that claims 1-8, 12, 13, 16-18, 20 and 21 are not disclosed by any proper

reading of HOLROYD.

Because HOLROYD fails to disclose or suggest at least the above mentioned features as recited in independent claim 1, Applicant submits that HOLROYD does not disclose all the claimed features recited in at least independent claim 1.

Furthermore, Applicant submits that dependent claims 9-11, 14, 15, 19 and 22 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper reading of HOLROYD discloses or suggests, in combination: that the covering layer includes at least two different thermosetting plastics as recited in claim 9; that the covering layer includes at least two different thermoplastics as recited in claim 10; that the covering layer includes at least two different thermoplastics as recited in claim 11; that the covering layer comprises a mixture of the at least one thermosetting plastic and the at least one thermoplastic and wherein an amount of the thermosetting plastic relative to the amount of thermoplastic in the mixture comprises a mixture ratio which varies over a radial thickness of the covering layer as recited in claim 14; that the amount or proportion of thermoplastic relative to the amount of the thermosetting plastic increases radially outwardly in the covering layer as recited in claim 15; that the covering layer includes one of glass, carbon, and aramide fibers as recited in claim 19; and that the covering layer includes powdered fillers as recited in claim 22.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the above-noted rejection under 35 U.S.C. § 102(b) and 103(a) and indicate that these claims are allowable over the applied art of record.

CONCLUSION

Applicant respectfully submits that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. §§ 112, 102 and 103 and respectfully requests the Examiner to indicate allowance of each and every pending claim of the present invention.

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious the Applicant's invention, as recited in each of claims 1-22 and 47. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Further, any amendments to the claims which have been made in this response and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

The Commissioner is hereby authorized to charge any fees necessary for consideration

of this amendment to deposit account No. 19-0089.

Should there be any questions, the Examiner is invited to contact the undersigned attorney at the number listed below.

Respectfully submitted,
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Attachments: Appendices 1-2
form PTO-1449
Three page chart of plastics

APPENDIX 1

Changes to paragraph [0021] in the specification:

[0021] In accordance with still another embodiment of the invention, the melting temperature of the thermoplastics is selected to be below the glass transition temperature of the thermosetting plastic or plastics. It is even possible to raise the covering layer above the melting temperature of the [thermosetting plastic or the thermosetting plastic] thermoplastic or thermoplastic mixture by the selection of corresponding thermoplastics and thermosetting plastics or corresponding thermoplastic and thermosetting plastic mixtures and thus to achieve the melting or part melting of the covering layer required for the removal without the thermosetting plastic proportion of the covering layer being destroyed by overheating.

APPENDIX 2

Changes to claim 1 as follows:

1. (Amended) A roll for smoothing a web comprising:

a roll core having an outer surface;

a covering layer disposed on the outer surface of the roll core, the covering layer having an inner surface and an outer surface;

the covering layer comprising at least one thermosetting plastic and at least one thermoplastic,

wherein the at least one thermoplastic has a melting temperature which is below a glass transition temperature of the at least one thermosetting plastic.